Los Reales Sustainability Campus Composting Facility
Aquifer Protection Permit No. P-513103
Place ID 3024, LTF No. 86177
New Aquifer Protection Permit

I. Introduction:

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards (AWQS) at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). BADCT's purpose is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology), to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer or to prevent pollutants from reaching the aquifer.

II. Permittee & Facility Location:

City of Tucson
Los Reales Sustainability Campus Compost Facility
5300 E. Los Reales Road
Tucson, AZ 85756

The Los Reales Composting Facility is located within the Los Reales Sustainability Campus, occupying a 7.7 acre area in the northwest corner of the landfill operation.

III. Facility Description:

The Los Reales Sustainability Campus (LRSC) Composting Facility is located within the LRLF Site, a Municipal Solid Waste Landfill. The Composting Facility consists of an aerated windrow feedstock composting facility located on a 7.7 acre parcel in the northwest portion of the landfill property. The existing composting operation feedstock consists of only food and yard waste (leaves, grass clippings, garden materials, weeds, and brush). The operation will add animal waste that is sourced from the Reid Park Zoo and horse manure collected from local ranches and boarding stalls. Once materials for composting arrive at the facility, windrows are formed averaging 14 feet in height, 400 feet in length and 7 feet in width.

IV. Best Available Demonstrated Control Technology (BADCT):

The LRSC Composting Facility is fully contained within a continuous perimeter berm (constructed and maintained to be a minimum 4-foot high by 5-foot wide) to prevent stormwater run-on from other areas of the landfill and contain stormwater run-off from the Composting Facility. The Composting Facility floor is lined and maintained with a minimum 6-inch layer of inert compacted milled asphalt to prevent the infiltration of surficial discharges to the subsurface soils and groundwater. Additionally, a 4-inch operational layer of chipped green waste material (wood chips) shall be used as a base for windrows to protect the compacted asphalt from equipment damage during processing. The facility floor shall be maintained and graded with approximately 1.2 percent

slope towards the southern berm of the Composting Facility. Surface water will pond at the low point along the south berm. A minimum 2-ft freeboard shall be maintained within the facility.

The bermed area of the Compost Facility shall contain precipitation from a 100 yr-2hr storm as well as the daily operational water usage of approximately 0.08 inches for spray down and dust control. When water level reaches the 2 feet freeboard, a portable pump shall be used to pump water into trucks for use in dust control operations on the landfill area. If freeboard cannot be maintained in the bermed compost area, water shall be pumped to a stormwater retention basin located southeast of the composting facility serving the entire landfill site.

Site-specific characteristics are included as part of the BADCT for the Composting Facility. The depth to groundwater is approximately 220 feet below ground surface and flows to the northwest. Water use for daily operations (spray down and dust control) will be limited and evaporation rates are high. The vadose zone shall be used for soil aquifer treatment for pathogen removal.

In addition to the above, materials received and maintained at the Compost Facility shall be continuously monitored for materials that may constitute an environmental hazard or risk of contamination to the subsurface soils and/or groundwater. All wind-blown litter and other unapproved materials identified at the facility are hand-picked and collected for disposal at the landfill working face. Feedstocks that are identified as contaminated (with large volumes of inorganic, non-compostable and/or prohibited materials) shall be immediately removed and disposed of at the active landfill working face. Any hazardous materials or materials that may present a risk to groundwater shall be promptly isolated and removed from the compost area.

V. Compliance with Aquifer Water Quality Standards (AWQS):

The pollutant management area (PMA) at the site includes the compost operation facility contained within the berms. The discharge impact area (DIA), as defined by A.R.S. §49-201.13, is the potential areal extent of pollutant migration, as projected on the land surface as the result of a discharge from a facility. The DIA for the site is contiguous with the PMA.